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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,312	01/21/2000	KUNIO FUKUDA	6715/57722	7093

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EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/403,312	FUKUDA, KUNIO	
	Examiner	Art Unit	
	Kevin C. Harper	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-4, 7-9, 11-13, 16-18, 21-23, 25-29, 31, 32, 38-40, 43-45 and 48-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7-9, 11-13, 16-18, 21-23, 25-29, 31, 32, 38-40, 43-45 and 48-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments filed June 24, 2004, have been fully considered but they are not persuasive. Applicant argued that Malkamaki does not disclose a discriminating means for discriminating a single-carrier signal and a multicarrier signal having plural subcarriers. However, in Malkamaki a base station receiver (Figure 1, item 104) discriminates between a single carrier signal (Figure 6, one of items 202) and a multicarrier signal (page 8, lines 25-31; Figure 6, one of items 601) having plural subcarriers (page 11, lines 7-8 and page 8, lines 22-25; page 2, lines 8-12; page 4, lines 7-9; page 10, lines 9-14;). The multicarrier signal and the single carrier signal are transmitted at the same time or within the same time slot period (Figures 4 and 6, any of TN0-TN7). *pg 17-20*

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 16-18, 21-23, 27-29, 38-40, 43-45 and 48-50 are rejected under 35 U.S.C. 102(a) as being anticipated by Malkamaki et al. (WO 98/02982).

2. Regarding claim 16, 21, 27, 38-39, 43 and 48, Malkamaki discloses a communication system (Figure 1) comprising a base station device (item 104) having a transceiving means for carrying out communication with a first device using an OFDM signal (page 6, lines 19-31; Figures 4 and 6) having data dispersed to several subcarriers or with a second device using a single subcarrier for a communication (page 9, line 31 through page 10, line 14; page 6, lines 15-

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32). The base station comprises a discrimination means for discriminating the multi-carrier signal using m subcarriers and the single carrier (Figure 6; page 8, lines 19-22 and page 10, lines 2-13). Further regarding claims 21, 27, 38, 43 and 48, m is an integer greater than two (page 8, lines 19-25 and page 10, lines 2-12) and j is 1.

3. Regarding claims 17-18, 22-23, 28-29, 40, 44-45 and 49-50, the base station comprises a receiving control means to demodulate data transmitted at various frequencies and at various time slots within a frame (Figures 4 and 6; page 6, lines 20-25).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-4, 7-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki (WO 98/02982) in view of Suzuki (US 6,400,679).

4. Regarding claims 2, 7 and 11, Malkamaki discloses a communication system (Figure 1) comprising a base station device (item 104) having a transceiving means for carrying out communication with a first device using an OFDM signal (page 6, lines 19-31; Figures 4 and 6) having data dispersed to several subcarriers or with a second device using a single subcarrier for a communication (page 9, line 31 through page 10, line 14; page 6, lines 15-32). The base station comprises a discrimination means for discriminating the multi-carrier signal using m subcarriers and the single carrier (Figure 6; page 8, lines 19-22 and page 10, lines 2-13).

However, Malkamaki does not disclose that certain devices use fewer carriers than a first device during uplink communications, where the fewer carriers are more than one. Suzuki discloses that the number of carriers allocated to a subscriber in OFDM is variable and based on the

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amount of communication desired (Figure 7; col. 4, lines 32-38). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a variable number of assigned carriers for the devices in the invention of Malkamaki in order to give a higher bandwidth to users that have paid for a higher rate of service or that require a momentarily higher rate of service.

5. Regarding claims 3-4, 8-9 and 12-13, in Malkamaki the base station comprises a receiving control means to demodulate data transmitted at various frequencies and at various time slots within a frame (Figures 4 and 6; page 6, lines 20-25).

Claims 25-26 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malkamaki as applied to claim 21 or 27 above, in further view of Igarashi (US 5,940,143).

6. Regarding claims 25-26 and 31-32, Malkamaki does not disclose a passband filter for an OFDM system. Igarashi discloses a controllable passband filter for an OFDM system (Figure 1, item 20; col. 5, lines 41-42 and 55-58). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to have a passband filter for selecting a reception frequency or frequencies in the invention of Malkamaki in order to avoid receiving unwanted signals outside an desired reception frequency band.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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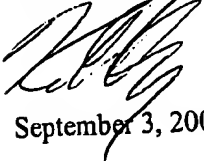
the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:30 AM to 8:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only (applications must be associated with a customer number). For more information about the PAIR system, see pair.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin C. Harper



September 3, 2004

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